

**TEST TITLE:** 63812-204850 DECODER, RADDS TO 6 WIRE DX/DY **TEST NO:** 45011-5-058  
OPERABILITY **REV/CHG:** A

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**COVER SHEET**

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**TEST PROCEDURE PREPARATION:**

Prepared by: NSWC PHD DAM NECK DET CODE 6D10  
TDA Organization and Code

Date: 10 JAN 98

**TEST PROCEDURE REVIEW:**

Reviewed by: NSWC PHD DAM NECK DET CODE 6D10  
TDM Organization and Code

Date: 10 JAN 98

**DOCUMENTATION CERTIFICATION:**

Approved by: \_\_\_\_\_  
TDD Organization and Code

Date: \_\_\_\_\_

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**REVISION RECORD**

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<u>REV/CHG</u>	<u>DESCRIPTION</u>	<u>APPROVAL</u>	
		<u>INITIAL</u>	<u>DATE</u>
-	Original Issue	NSWC	10 Jan 98
A	Incorporated validation changes.	FES	21 June 99

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**LIST OF EFFECTIVE PAGES**

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<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>	<u>PG-REV</u>
1 - A	2 - A	3 - A	4 - A	5 - A	6 - A	7 - A
8 - A	9 - A	10 - A	11 - A	12 - A	13 - A	14 - A

**TEST OUTLINE**

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1. OBJECTIVE:

To verify that the 63812-204850 Decoder, RADDS TO 6 WIRE DX/DY (63812-204850 Decoder) is operating properly with AN/UYA-4 format interfacing equipment.

2. ESTIMATED TESTING TIME:

1 hour

3. REFERENCES:

SE245-AE-MMO-A10, Technical Manual for the Radar Signal Distribution Switchboard SB-4229A(V)/SP, Addendum 5, EC-5

4. TEST OR SUPPORT EQUIPMENT AND MATERIAL:

<u>GENERIC NAME</u>	<u>QUANTITY</u>	<u>IDENTIFYING INFORMATION</u>
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None

5. COMPUTER PROGRAMS REQUIRED:

None

6. PREREQUISITES:

- a. 41111-3-044, OJ-194A/UYA-4 PPI Display Console ILO and Equipment Test
- b. 45011-3-041, SB-4229A(V)/SP Radar Signal Distribution Switchboard ILO and Functional Test
- c. 45011-3-042, SB-4229A(V)11/SP ASDS Switchboard Operability
- d. 45011-3-065, 63812-204850 Decoder, RADDS to 6 Wire DX/DY ILO
- e. 45011-5-055, CV-3989(V)1/SP Analog to Digital Converter Operability

7. SPECIAL CONDITIONS AND SERVICES:

115 VAC, 1  $\phi$ , 60 Hz Power

8. EQUIPMENT INVOLVED IN TEST:

- a. Ships selected radar
- b. CV-3989/SP or CV-3989(V)1/SP Signal Data Converter
- c. 63812-204850 Decoder
- d. SB-4229A(V)/SP Radar Signal Distribution Switchboard
- e. Interfacing equipment accepting AN/UYA-4 format to verify azimuth (OJ-194A/UYA-4 Display Console)

**TEST OUTLINE**

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9. CONFIGURATION:

No field changes required to run this test.

10. METHOD:

A Radar Display and Distribution System (RADDS) Data Stream input signal will be decoded with various levels and types of output signals to be verified. An OJ-194A/UYA-4 Display Console is used to verify antenna azimuth bearing information.

11. STATION ASSIGNMENTS:

<u>STATION</u>	<u>NO. PERSONNEL</u>	<u>COMMENTS</u>
63812-204850 Decoder Selected Radar	1 Electronic Technician 1 Operator	Performs Operability Test Operates Radar

**SAFETY INSTRUCTIONS**

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- a. The operation of this equipment involves the use of high voltages that are dangerous to life. Extreme caution must be exercised at all times. Do not work on open or disassembled units when power is applied.
- b. Comply with ships regulations and safety precautions prior to antenna rotation and radiation. Remain clear of swing radius of rotating antennas.
- c. Test personnel will strictly adhere to all safety precautions including, but not limited to, all Cautions and Warnings contained in this test procedure and applicable documents.

## INITIAL CONDITIONS AND SETUP

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>												
		<p><u>NOTE</u>            Use a CV-3989/SP or CV-3989(V)1/SP that is being fed from an operational radar.</p>												
1	63812-204850 Decoder	Ensure a proper RADDS Data stream is being supplied to RADDS 1 (J2) input connector for the 63812-204850 Decoder module (Part Number 302003-1) under test.												
2	63812-204850 Decoder	Set AC POWER switch to OFF position.												
3		<p>63812-204850 Decoder Loosen fasteners for 1A1A2 Select module (Part Number 302008-1), remove module and set dip switch for Radar Selection type.</p> <p>Select Mode Switch Settings</p> <table> <tr> <td></td><td>S1-1</td><td>S1-2</td></tr> <tr> <td><u>Mode</u></td><td><u>Position</u></td><td><u>Position</u></td></tr> <tr> <td>SB-4229(Binary Code)</td><td>Open</td><td>Open</td></tr> <tr> <td>SPA-25 (1505 Code)</td><td>Closed</td><td>Open</td></tr> </table> <p><u>Caution</u>            302008-1 Decoder modules are Electrostatic Discharge (ESD) sensitive. Observe ESD precautions while handling.</p>		S1-1	S1-2	<u>Mode</u>	<u>Position</u>	<u>Position</u>	SB-4229(Binary Code)	Open	Open	SPA-25 (1505 Code)	Closed	Open
	S1-1	S1-2												
<u>Mode</u>	<u>Position</u>	<u>Position</u>												
SB-4229(Binary Code)	Open	Open												
SPA-25 (1505 Code)	Closed	Open												
4	63812-204850 Decoder	Reinstall 1A1A2 module, securing fasteners.												

## TESTING STEPS

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>
1	63812-204850 Decoder	Set AC POWER switch to ON and observe POWER ON indicator is lit.
2	63812-204850 Decoder	<p>Observe the following power indicators are lit on module 1A1A1 (Part Number 302003-1), 1A1A2 (Part Number 302008-1) and 1A1A3 (Part Number 302012-1):</p> <p><u>Power Indicator</u>  -15V  +15V  +5V</p>
3	Radar	<p>Set the associated radar to RELATIVE mode with the antenna to a fixed bearing between 0° and 90° using either the Synchro Amp for the associated radar or a radar display not associated with the 63812-204850 Decoder under test.</p> <p><u>RECORD</u> the ship antenna angle on Test Data Recording sheet.</p>
<p><u>NOTE</u></p> <p>Interfacing equipment accepting the AN/UYA-4 format must be used to verify azimuth in steps 4, 6, 8, 10 and 12.</p>		
4	AN/UYA-4 Console	<p>Verify interfacing equipment indicates same fixed azimuth angle as ships radar antenna <math>\pm 1^\circ</math>.</p> <p><u>RECORD</u> on Test Data Recording sheet.</p>
5	Radar	<p>Set the antenna to a fixed bearing between 90° and 180° using either the Synchro Amp for the associated radar or a radar display not associated with the 63812-204850 Decoder under test.</p> <p><u>RECORD</u> the ship antenna angle on Test Data Recording sheet.</p>
6	AN/UYA-4 Console	<p>Verify interfacing equipment indicates same fixed azimuth angle as ships radar antenna <math>\pm 1^\circ</math>.</p> <p><u>RECORD</u> on Test Data Recording sheet.</p>

## TESTING STEPS

<u>STEP</u>	<u>STATION</u>	<u>INSTRUCTIONS</u>
7	Radar	Set the antenna to a fixed bearing between 180° and 270° using either the Synchro Amp for the associated radar or a radar display not associated with the 63812-204850 Decoder under test. <u>RECORD</u> the ship antenna angle on Test Data Recording sheet.
8	AN/UYA-4 Console	Verify Interfacing equipment indicates same fixed azimuth angle as ships radar antenna $\pm 1^\circ$ . <u>RECORD</u> on Test Data Recording sheet.
9	Radar	Set the antenna to a fixed bearing between 270° and 359° using either the Synchro Amp for the associated radar or a radar display not associated with the 63812-204850 Decoder under test. <u>RECORD</u> the ship antenna angle on Test Data Recording sheet.
10	AN/UYA-4 Console	Verify interfacing equipment indicates same fixed azimuth angle as ships radar antenna $\pm 1^\circ$ . <u>RECORD</u> on Test Data Recording sheet.
11	Radar	Rotate the associated radar antenna.
12	AN/UYA-4 Console	Verify interfacing equipment indicates azimuth rotation in the correct direction. <u>RECORD</u> on Test Data Recording sheet.
13	AN/UYA-4 Console	Use the AN/UYA-4 interfacing equipment's Video Selection Switch to verify all Video Inputs are selectable on the 63812-204850 Decoder. <u>RECORD</u> on Test Data Recording sheet.

### NOTE

If less than four (4) Video Inputs are provided for the Radar channel selected, Video signals must be provided for the unused 63812-204850 Decoders Video inputs.



**TESTING STEPS**

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<b><u>STEP</u></b>	<b><u>STATION</u></b>	<b><u>INSTRUCTIONS</u></b>
14	AN/UYA-4 Console	Ensure the 63812-204850 Decoder provides selection of Switchboard channels 1 through 11 using the interfacing equipment's Radar Selection Switch to select the channels and the SB-4229A(V)/SP RSDS Controller module display to verify each selection. <u>RECORD</u> on Test Data Recording sheet.

**NOTE**

A SB-4229A(V)/SP RSDS Controller modules front panel output rotary switches must be set to the AN/UYA-4 interfacing equipment's switchboard channel for display verification.

**SHUTDOWN AND SECURING**

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<b><u>STEP</u></b>	<b><u>STATION</u></b>	<b><u>INSTRUCTIONS</u></b>
1	63812-204850 Decoder	Set AC POWER switch to OFF position.

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**TEST DATA RECORDING**

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**EQUIPMENT UNDER TEST**

**EQUIPMENT**

63812-204850 Decoder

**SERIAL NO.**

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**PREREQUISITES**

- a. 41111-3-044, OJ-194A/UYA-4 PPI Display Console ILO and Equipment Test
- b. 45011-3-041, SB-4229A(V)/SP Radar Signal Distribution Switchboard ILO and Functional Test
- c. 45011-3-042, SB-4229A(V)11/SP ASDS Switchboard Operability
- d. 45011-3-065, 63812-204850 Decoder, RADDS to 6 Wire DX/DY ILO
- e. 45011-5-055, CV-3989(V)1/SP Analog to Digital Converter Operability

**Prerequisites Completed:** \_\_\_\_\_ **Signature and Date:** \_\_\_\_\_

**NOTE**

Write "N/A" in ACTUAL RESULTS spaces for test sections where signals are not present in the 63812-204850 Decoder under test.

**TEST DATA RECORDING**

<b><u>STEP</u></b>	<b><u>TEST ELEMENT</u></b>	<b><u>EXPECTED RESULTS</u></b>	<b><u>ACTUAL RESULTS</u></b>
<b><u>1A1A1 DECODER MODULE</u></b>			
3	<b><u>SHIPS ANTENNA ANGLE</u></b>	0° – 90°	_____ Deg.
4	<b><u>AN/UYA-4 CONSOLE</u></b>	Ship Antenna Angle $\pm 1^\circ$	_____ Deg.
5	<b><u>SHIPS ANTENNA ANGLE</u></b>	90° - 180°	_____ Deg.
6	<b><u>AN/UYA-4 CONSOLE</u></b>	Ship Antenna Angle $\pm 1^\circ$	_____ Deg.
7	<b><u>SHIPS ANTENNA ANGLE</u></b>	180° - 270°	_____ Deg.
8	<b><u>AN/UYA-4 CONSOLE</u></b>	Ship Antenna Angle $\pm 1^\circ$	_____ Deg.
9	<b><u>SHIPS ANTENNA ANGLE</u></b>	270° - 359°	_____ Deg.

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SHIP HULL NO.

TEST CONDUCTOR  
SIGNATURE

GOVERNMENT WITNESS  
SIGNATURE

DATE

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**TEST DATA RECORDING**

<b><u>STEP</u></b>	<b><u>TEST ELEMENT</u></b>	<b><u>EXPECTED RESULTS</u></b>	<b><u>ACTUAL RESULTS</u></b>
10	<u>AN/UYA-4 CONSOLE</u>	Ship Antenna Angle $\pm 1^\circ$	_____ Deg.
12	<u>AN/UYA-4 CONSOLE</u>	ROTATION	_____
13	<u>63812-204850 DECODER VIDEO SWITCHING</u>		
	Video 1 Selected	Video 1 present	_____
	Video 2 Selected	Video 2 present	_____
	Video 3 Selected	Video 3 present	_____
	Video 4 Selected	Video 4 present	_____
14	<u>RADAR CHANNEL SELECTION</u>		
	<u>AN/UYA-4 Equipment</u>	SB-4229A(V)11/SP RSDS	
	<u>Channel Selected</u>	<u>Controller Display</u>	
	Channel 1	01	_____
	Channel 2	02	_____
	Channel 3	03	_____
	Channel 4	04	_____
	Channel 5	05	_____
	Channel 6	06	_____
	Channel 7	07	_____
	Channel 8	08	_____
	Channel 9	09	_____
	Channel 10	10	_____
	Channel 11	11	_____

SHIP HULL NO.	TEST CONDUCTOR SIGNATURE	GOVERNMENT WITNESS SIGNATURE	DATE
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**TEST TITLE:** 63812-204850 DECODER, RADDS TO 6 WIRE DX/DY **TEST NO:** 45011-5-058  
OPERABILITY **REV/CHG:** A

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**TEST EQUIPMENT USED**

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List all test equipment utilized in the test including all general and specialized test equipment, special test cables, attenuators, and any other materials requiring calibration. Include extra sheets as necessary to identify all test equipment.

<u>GENERIC NAME</u>	<u>MODEL</u>	<u>SERIAL NO.</u>	<u>CALIBRATION DUE DATE</u>	<u>REMARKS</u>
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<u>SHIP HULL NO.</u>	<u>TEST CONDUCTOR SIGNATURE</u>	<u>GOVERNMENT WITNESS SIGNATURE</u>	<u>DATE</u>
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**COMMENTS**

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This sheet is provided for the test conductor or Government witness to make appropriate comments including the following:

- a. Visual observations of dynamic responses;
- b. Erratic or unusual equipment behavior;
- c. Operational or handling difficulties;
- d. Procedural corrections;
- e. Equipment malfunctions;
- f. Discrepancies noted during test conduct; and,
- g. Waivers including reference to authorization document, i.e., letter, message, etc.

Indicate if a Test Problem Report (TPR) was generated with respect to these or other problems.

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SHIP HULL NO.

TEST CONDUCTOR  
SIGNATURE

GOVERNMENT WITNESS  
SIGNATURE

DATE

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